AMENDMENTS

TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An acoustic waveguide for controlling the direction of sound radiated from a transducer, the acoustic waveguide~~,~~ comprising:

a first control curve;

a second control curve;

a third control curve; and

a fourth control curve, where at least one of the first, second, third or fourth control curves differs from at least one other control curve; and

a continuous three-dimensional surface coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersects a circular throat end and a mouth, where the mouth is defined by a non-elliptical closed control curve and where the circular throat end is designed to couple to the transducer ~~that defines a mouth~~.

2. (canceled).

3. (original): The acoustic waveguide of claim 1, wherein the continuous three-dimensional surface further includes: a minimum surface area axial section plane of the continuous three-dimensional surface formed from the first control curve, second control curve, third control curve, and fourth control curve.

4. (original): The acoustic waveguide of claim 3, wherein the minimum surface area axial section plane is at the circular throat end of the acoustic waveguide.

5. (previously presented): The acoustic waveguide of claim 1, wherein the first control curve is symmetrical about a first axis with the second control curve.

6. (previously presented: The acoustic waveguide of claim 5, wherein the third control curve is symmetrical about a second axis with the fourth control curve.

7. (currently amended) : A method for creation of an acoustic waveguide for controlling the direction of sound radiated from a transducer, the acoustic waveguide, comprising:

identifying a first control curve;

identifying a second control curve that mirrors the first control curve;

identifying a third control curve that differs from the first control curve;

identifying a fourth control curve that mirrors the third control curve; and

generating a continuous three-dimensional surface formed by extending the first control curve, second control curve, third control curve and fourth control curve to intersect a circular throat end and a non-elliptical closed control curve forming a mouth, where the circular throat end is designed to couple to the transducer.

8-10. (canceled).

11. (previously presented): The acoustic waveguide of claim 3, where the minimum surface area axial section plane is disposed at a midsection of the acoustic waveguide axially between the circular throat end and the non-elliptical closed control curve.

12. (currently amended): An acoustic waveguide for controlling the direction of sound radiated from a transducer, the acoustic waveguide, comprising:

a first control curve;

a second control curve;

a third control curve; and

a fourth control curve, where at least one of the first, second, third or fourth control curves differs from at least one other control curve; and

a continuous three-dimensional surface swept about a central axis of the acoustic waveguide with minimal discontinuities and coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersects a circular throat end and a non-elliptical closed control curve that defines a mouth, where the circular throat end is designed to couple to the transducer.

13. (currently amended): An acoustic waveguide for controlling the direction of sound radiated from a transducer, the acoustic waveguide, comprising:

a first control curve;

a second control curve;

a third control curve; and

a fourth control curve, where at least one of the first, second, third or fourth control curves differs from at least one other control curve; and

a continuous three-dimensional surface coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersects a circular throat end and a non-elliptical closed control curve that defines a mouth, where the circular throat end is designed to couple to the transducer and the continuous three-dimensional surface comprising a minimum surface area axial section plane formed from the first control curve, second control curve, third control curve, and fourth control curve, where the minimum surface area axial section plane is disposed at a midsection of the acoustic waveguide axially between the circular throat end and the non-elliptical closed control curve.

14. (currently amended): An acoustic waveguide for controlling the direction of sound radiated from a transducer, the acoustic waveguide, comprising:

a first control curve;

a second control curve;

a third control curve; and

a fourth control curve, where at least one of the first, second, third or fourth control curves differs from at least one other control curve; and

a continuous three-dimensional surface coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersects a circular throat end and a non-elliptical closed control previously presented curve that defines a mouth, where each of the first, second, third and fourth control curves is convergent-divergent relative to an axial centerline of the acoustic waveguide and where the circular throat end is designed to couple to the transducer.

15. (previously presented): The acoustic waveguide of claim 12, wherein the continuous three-dimensional surface further includes a minimum surface area axial section plane of the continuous three-dimensional surface formed from the first control curve, second control curve, third control curve, and fourth control curve.

16. (previously presented): The acoustic waveguide of claim 15, wherein the minimum surface area axial section plane is at the circular throat end of the acoustic waveguide.

17. (previously presented): The acoustic waveguide of claim 15, where the minimum surface area axial section plane is disposed at a midsection of the acoustic waveguide axially between the circular throat end and the non-elliptical closed control curve.

18. (previously presented): The acoustic waveguide of claim 12, wherein the first control curve is symmetrical about a first axis with the second control curve.

19. (previously presented): The acoustic waveguide of claim 12, wherein the third control curve is symmetrical about a second axis with the fourth control curve.

20. (canceled).

21. (previously presented): The acoustic waveguide of claim 13, wherein the first control curve is symmetrical about a first axis with the second control curve.

22. (previously presented): The acoustic waveguide of claim 13, wherein the third control curve is symmetrical about a second axis with the fourth control curve.

23. (canceled).

24. (previously presented): The acoustic waveguide of claim 14, wherein the continuous three-dimensional surface further includes a minimum surface area axial section plane of the continuous three-dimensional surface formed from the first control curve, second control curve, third control curve, and fourth control curve.

25. (previously presented): The acoustic waveguide of claim 24, wherein the minimum surface area axial section plane is at the circular throat end of the acoustic waveguide.

26. (previously presented): The acoustic waveguide of claim 24, where the minimum surface area axial section plane is disposed at a midsection of the acoustic waveguide axially between the circular throat end and the non-elliptical closed control curve.

27. (previously presented): The acoustic waveguide of claim 14, wherein the first control curve is symmetrical about a first axis with the second control curve.

28. (previously presented): The acoustic waveguide of claim 14, wherein the third control curve is symmetrical about a second axis with the fourth control curve.